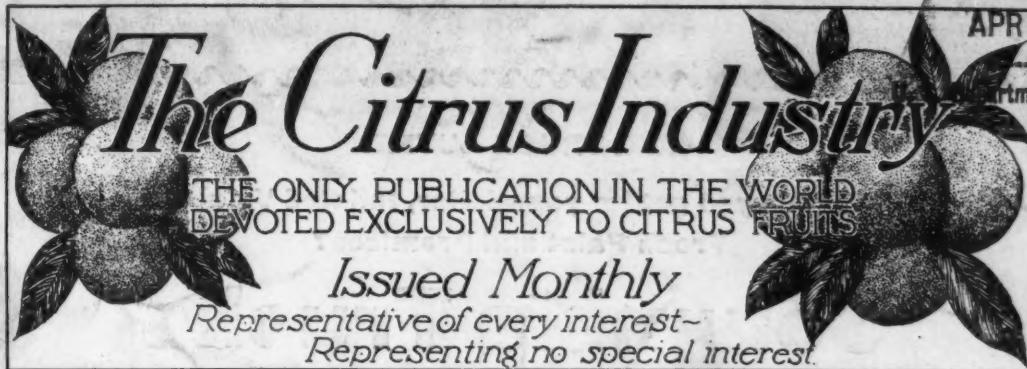


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VOL. 1.

FEBRUARY, 1920.

NO.2.

Some of the important citrus troubles are shown on the Grapefruit Leaf used as our trade mark. At left is the adult White Fly, next the Rust Mite, near the tip the Purple Scale, and in the upper middle the disease known as Scab of Grapefruit. All but Scab are shown more or less enlarged.



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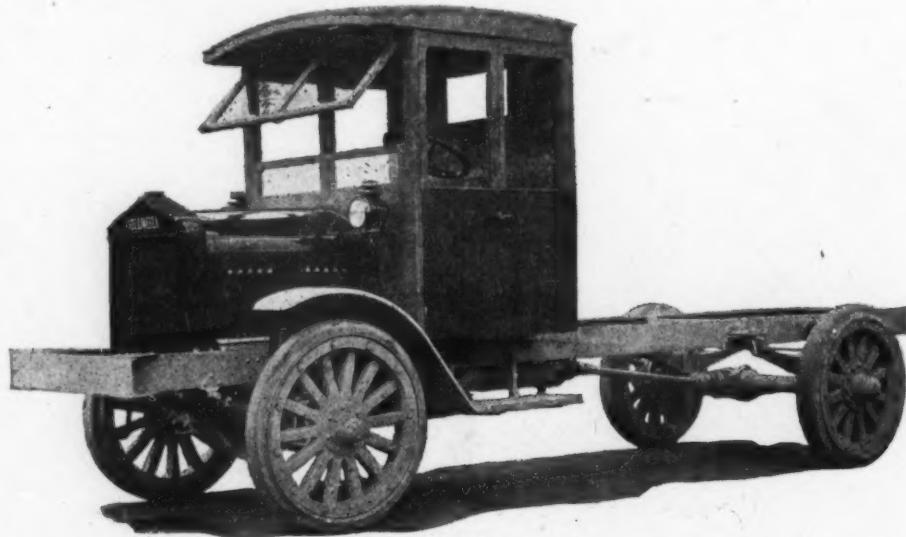
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Remember any salesman who objects to Columbia comparison has a reason. We are always glad to send a Columbia for either inspection or comparison at any time or place. Protect your investment, demand a comparison and then buy the truck your judgment dictates.

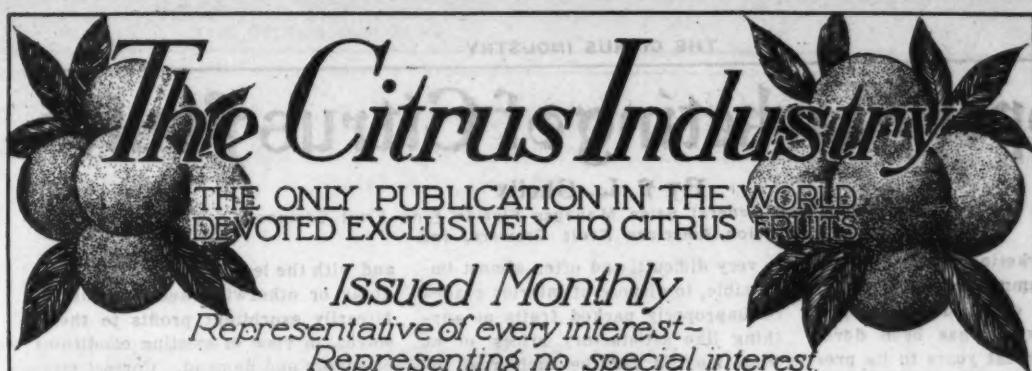
If you want to see a Columbia, Phone Tampa 4839. Dealers for South Florida. There will be a demonstration of Columbia Trucks at the South Fla. Fair, Feb. 16-21.

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**Francisco Arango, Jr.**

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VOL. 1.

FEBRUARY, 1920.

NO. 2.

## A Gentleman's Business

By Arthur M. Duke

In both California and Florida the woods are full of them, particularly during the winter season—retired folks. There are retired bankers, retired packers, retired, but far from retiring, actors, retired butchers, bakers and candlestick makers and what not. No business seems to be so deserving of human endeavor and attention but what there are many who retire from it when once their accumulated pile renders further devotion to the business unnecessary. When we come to think of retired farmers their name is legion. Not only do they flock to warmer climates during the winter season in entire droves or coveys; but "back home" there are whole communities of them.

Throughout the great corn and wheat belts there are many towns the population of which is almost entirely composed of retired farmers. In order to get away from the comparative hardships of farm life there they dispose of part or all of their farm property and move "to town." There they settle down to wind up their days in a period of comparative mental and physical stagnation. Business men in other lines often force themselves into retirement through too close application to their work; but the chief end of the dreams of the average northern farmer is the time when he may move into some village or town not far from the scene of earlier activities, there to pass the balance of his days between the picture shows and contemplation of the wonders of the town house with a real bath tub and two kinds of hot water—lukewarm and cold.

But did you ever hear of a "retired

citrus grower"?

No, my friends, there ain't no such animal. First cousin to the farmer of northern climes he may be, but let any man once get into his system the lure of the cultivation of the golden fruits and he has acquired a life-occupation, from the varied and intense interests of which he has not the slightest desire to retire until the Grim Reaper takes a hand and forces him out.

"By their fruits ye shall know them," says the Good Book, thus establishing the motto of all good citrus growers for all times. The production of more and better fruit is an all-absorbing occupation which can well occupy the best thought of any man. No matter how well the grower may do this season there is always the thought that he might have done still better, if—. Citrus growing really is a sport. It is like golf in that no matter how excellent the score card there is always the thought it could have been quite a bit better if it hadn't been for that bobble or this wobble. So the citrus fan goes back to the next test with a heavy-set determination so to improve his game that next season he shall make a perfect score. Yet such are the limitations of the finite human intellect a perfect score practically is unattainable in anything. There must always be the wobble and the bobble to spoil it. So the citrus grower thus continually strives for the unattainable, though perhaps making great strides and advances, and having the time of his life while in reality working hard.

Folks who sit around inspiring

steam radiators with the temperature outside hovering around ten below Cairo at points in the north will, of course, agree that citrus growing is an ideal occupation. For do not the citrus growers sit around under palm trees reading the latest best sellers, occasionally picking from their laps the golden orange or grapefruit which has dropped therein while they were reading an interesting passage, and leisurely putting it in a box conveniently placed beside the easy chair; getting up occasionally to nail on a box-top so the mail man on his next trip can collect the box for transportation to the markets. That is the mental picture the average northerner holds of the business of producing citrus fruits, before having opportunity to come into actual contact with it. It is true some persons holding somewhat to this point of view have made a hasty entrance into and a hurried exit from the business of citrus fruit culture; but theirs can hardly be called a retirement. If ever once they make a real start it is a safe bet they become fans, and stick to their new sport for life.

Back in the golden age of the blue grass region of Kentucky and Tennessee raising blooded race horses was the gentleman's game of the section. It numbered its fans, both masculine and feminine, by the hundreds. It had its language, its customs and traditions. But after all a race horse hardly possessed the utility to build upon for many generations of humans. Not only do citrus fruits abound in beauty, in luscious-

(Continued on page 24)

# Proper Marketing of Citrus fruits

By F. L. Shelly

Vice-President and General Sales Manager Florida Fine Fruit Company,  
Division American Fruit Growers, Inc.

Proper marketing is the greatest problem of commercial agriculture.

Nationwide carlot distribution of perishables, which has been developed within recent years to its present enormous volume as result of the necessities of our complex modern life, has become such an every-day matter that it is accepted merely as a fact by the average layman. And even the producer, to whom it is a matter of vital importance, probably in a great many instances loses sight of the intricacies of the problem and the extent of the organized business forces essential to its successful handling.

The average consumer, if he gives any consideration to the matter at all, simply looks upon such a business as a means of bringing his food products to him, and the average producer probably considers it merely in the light of affording him an opportunity to realize on his crops, both viewpoints in the main having relation only to the interests of the individual. But in its proper light, the distribution of perishable products involves principles much larger than any merely personal or selfish interest. Its proper objects are to supply the great mass of the people with the food products which they need for their subsistence, at such a price as will give the producer a fair return in the way of profit on his investment and effort, and with a minimum of waste.

It is absolutely necessary, as a principle, that the producer shall realize at least a fair margin of profit in his enterprise; otherwise it is not possible to hope for a continued production sufficient to supply the consumptive demand. At the same time and aside from the mere standpoint of volume in production, there are certain obligations resting upon the producer in the handling of his products, which directly affect the possibility of his realizing the best prices for the commodities which he has produced, or in fact a price that will save him a profit at all.

During the past ten years in particular, the consuming public has become more and more discriminating in the matter of the character and quality of fresh fruits which it demands, until at the present time under normal conditions of supply it

is very difficult, and often almost impossible, to dispose of inferior grades or improperly packed fruits at anything like satisfactory prices, or at what may in fact be their real intrinsic value; whereas at the same time a fancy article, well packed and in good condition, may be readily disposed of at a high price.

Consequently, it is plain that there is a direct connection between the best interests of the producer and the preferences of the consumer, and that it is of supreme importance to every grower, not only to produce the best quality possible in his products, but to make every effort to insure that his fruit will enter the market in the best possible condition and most attractive form, and that it will keep for a reasonable time thereafter. The obligation of a grower to his own best interest, therefore, to exercise the greatest care, both in the matter of production and in the grading, packing and loading of his product in the best possible manner, is very apparent.

The wholesale and retail dealers in the markets are important and essential factors in the handling of perishables, and they are entitled to a fair recompense for the part they play in the prompt and efficient distribution of such commodities to the consumer. Otherwise, it is not reasonably possible to expect them to preserve their efficiency and keep these products consistently and rapidly moving into consumption—which is very necessary to avoid waste, and waste is a costly thing for all parties concerned, regardless of whose hands in which it may occur. It would be difficult to exaggerate the importance of getting highly perishable commodities into the consumer's hands with the least possible delay. The consumer always picks first the attractive commodity that is in good condition, and here is manifest also an identity in the interests of the producer and the dealer.

At the same time, the wholesaler and the retailer, constituting the channels through which these perishable commodities must go, have certain obligations to both the producer and the consuming public. An obligation rests upon them to see to it that the goods reach the consumer's hands with reasonable dispatch

and with the least possible waste from decay or otherwise, and without arbitrarily exorbitant profits to themselves, in view of existing conditions of supply and demand. Correct merchandising recognizes the fact that in the long run this is the best and most profitable policy to pursue, and up-to-date dealers will act on this principle.

Conditions affecting the marketing of perishables vary so greatly from year to year that in practically no two successive seasons can any given crop be handled in exactly the same manner. Even while striving to dispose of one season's crop, one must be constantly looking and planning ahead—sometimes several years in advance—profiting by lessons learned in the past.

The handling of highly perishable fruits and produce has its own peculiar difficulties. The perishable nature of the products demands a promptness of disposition which is not required of ordinary commodities, and calls for the best obtainable methods and facilities for handling in order to deliver them to the consumer in attractive form and without loss. This applies alike to the preparation of the products for shipment, transportation by the railroads, and the organization of the distributing agencies which direct the disposition through the proper channels.

These fundamental principles, which apply in the handling of all products of this kind, find no exception in citrus fruits.

Every carlot market has its own peculiarities. Each has its preferences as to the character and sizes of citrus fruits which in general it prefers; and each has its limitations in the quantity of a particular class of fruit which it can dispose of to the best advantage.

Successful carlot distribution and sale of these fruits must recognize these facts. Distribution is properly not merely a matter of quantitative apportionment. It consists in carefully fitting to each market a proper supply of the particular grade and kind of fruit which such market, according to its peculiarities, preferences and relative demands, is best fitted to consume at a maximum price, under general conditions which may exist

(Continued on page 23)



F. L. SKELLY

Vice-president and general sales manager Florida Fine Fruit Company, Division American Fruit Growers, Inc., with headquarters at Orlando,

# The Citrus Industry

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## PROTECT CITRUS REPUTATION

Every Florida grower of citrus fruits and every well-wisher of the state and the industry, should get behind the movement to prohibit the sale of culls, drops and other low grade fruits under the guise of "prime Florida fruit."

Complaint has been made that fruit stands, huckster wagons and peddlers in Tampa and other South Florida cities have made a practice of buying up culls and drops, placing them on the market as prime fruit and selling them at the ruling price for choice grades. Purchasers of the fruit, naturally, are disappointed in the quality, and strangers are disposed to denounce all Florida grown citrus fruit as undesirable because of the poor quality of the stuff offered by unscrupulous dealers.

So flagrant has become the practice and so general the complaint, that growers and shippers have united in demanding that the cities of Florida at once pass ordinances prohibiting the sale of such fruit unless properly labeled. This is a move in the right direction and should be speedily acted upon by every Florida city.

All fruit offered for sale should be graded and plainly marked. This would prevent the sale of culls and drops as "prime" fruit, and the purchaser would be protected. If he bought culls, he would know it before the purchase was made and would not expect to get perfect fruit. Under such conditions, he could not condemn the prime fruit, knowing that he had purchased culls.

In this respect, California has beaten Florida in protecting the reputation of its citrus fruits. In that state all fruit offered for sale must be graded, and the culls and drops find their way to the marmalade and jam factories. The same condition should rule in Florida, and with the big marmalade plants now in operation at Orlando, Arcadia and Miami, and with many others soon to be in operation, there can be no excuse for any but perfect fruit finding its way to Florida markets.

Every city in Florida should act in this matter at once, and in doing it they should have the full knowledge that they have the backing and co-operation of every citrus grower and shipper in the state.

## LET'S ALL GET TOGETHER

We are all vitally interested in citrus fruits. The industry as a whole must prosper if any one branch of it is to enjoy the maximum fruits of honest endeavor. The time has passed when the grower considered the packer a necessary evil, and one who had to be watched in order to get a square deal. The packer no longer considers the distributor a superfluous element in the

business. The grower, the packer and the distributor are all essential to the success of the industry and they should work together, combining forces and uniting for a closer formation of their ranks. They are all allies in the citrus game. They all have the same end in view—to make a reasonable profit from the industry. But the industry as a whole must prosper or none of its several elements can continue to prosper.

The industry as a whole needs many things for which the combined strength of the growers, the packers and the distributors are needed. Marketing—proper marketing—is one of these. Without the co-operation of every element of the industry, from the grower in his grove to the retailer in his store, proper marketing cannot be achieved. There are numerous other matters, including car and train service, which affect the entire industry, which can be secured only through united, harmonious effort on the part of every citrus interest. Let us draw our lines closer and present a united front in working for the interests of the whole citrus industry.

The Citrus Industry stands for CITRUS as an industry. It is as much concerned over the prosperity of one branch as another. There is no reason why every branch of the industry may not be prosperous if only we will all unite to place the industry where it belongs—in the front ranks of the agricultural and commercial industries of the land.

## A GENTLEMAN'S GAME

A writer in this issue of The Citrus Industry contends that the growing of citrus fruits is a "gentleman's game," and in support of his contention points out that one never sees a retired citrus grower.

It is the truth. Every other profession and calling has its retired list. Among those engaged in other branches of agricultural pursuits, retirement from active farm life offers the chief incentive to endeavor during the years when the "pile" is being made.

Among the wheat and corn farmers of the Northwest, scarcely one but looks forward to the time when he may move to town and escape the toil and drudgery of the farm. The rice planter of the Southwest no less surely harbors the ambition to forsake his wide acres and dreams of the time when he may sit with his feet on the verandah rail of his town home.

In the old days, the cotton planter of the South and the tobacco planter of Kentucky and Virginia carried out the idea and the life of the country gentleman, but it is so no more. Cotton and tobacco planter has joined the wheat and corn farmer in seeking retirement as soon as the mortgage has been lifted and the children "married off."

Even among the baronial sugar planters, with their feudal possessions and almost feudal customs, there exists the tendency to forsake the wide verandahs of the plantation house for the contracted gallery of a city home.

Search the country as you may, North, East, South or West, and the only real country gentleman you will find—the one who really lives upon and enjoys his rural possessions—is the citrus grower. As our correspondent well says, citrus growing is the real gentleman's game.

Florida citrus growers are interested in two big fairs to be held this month, the Sub-Tropical Mid-Winter Fair at Orlando, February 10-13, and the South Florida Fair which opens at Tampa on February 16. Fine citrus exhibits are expected at each of these fairs.

Creases and seams are invariable signs of weak fruit.

**THE MARKET OUTLOOK**

It would require a seer and a son of a seer at this time to predict with any degree of accuracy and confidence the price possibilities which the next few weeks may bring forth. Since early fall literally there has been one thing after another affecting the markets unfavorably. A number of times it has looked as if the last of these unfavorable situations had been cleared up and the long-expected reaction to higher price levels was arriving. Every time, however, something else occurred to exert an unfavorable effect.

The season immediately following the holidays is normally a dull one. Without doubt the Florida offerings sent forward to the markets during this time were in excess of the normal requirements. This, plus an apparent wide disagreement as value on the part of many Florida shippers, prevented any possible climb to higher level. At times there have been variations as high as \$1.50 a box in the quotations of both oranges and grapefruit between different Florida shippers covering shipments of apparently similar character. The result of this was to unsettle the minds of the trade and to exert a restraining influence on any inclination to buy ahead.

Warmer weather then at points of shipment from Florida added to the unsettling effect.

California offerings of navels since the holidays have not generally been satisfactory to the trade. From all sections come complaint of comparative dryness in California navels. Only the considerable shortness of the navel crop can account for the willingness credited to certain speculators to pay a high price for fruit on the trees.

At the time this is written it is not yet possible to judge accurately what the epidemic of influenza again spreading over the country will do to stimulate consumption of citrus fruits. Undoubtedly the value of citrus fruits in influenza cases is accepted in the minds of the consuming public. The question is just how far the epidemic will spread and how serious it may become. If it becomes widespread and very serious there is no doubt the markets quickly must reflect the vastly increased consumption of citrus fruits. And should it pass like a wave across the country quickly and the majority of the cases of lighter form, the markets doubtless will react to their former indifference.

There are perhaps 5,000,000 boxes of both oranges and grapefruit to move out of Florida after February 1. It would be fairly close guesswork to say this is almost one-half grapefruit. This looks like exceptionally large offerings to be consumed by the markets, but considering this may be considerably reduced through droppage, and the California navel crop is so short, it does not necessarily mean a flood of fruit upon the markets. Florida's overplus just about balances California's shortage, in view of which, it seems reasonable to believe an era of considerably higher prices is ahead. Yet an era of satisfactorily steady and higher prices cannot be expected unless fruit arrives upon the market in satisfactory condition. If Floridas arrive with decay, and Californias with dryness, it is unreasonable to expect the markets to climb.

As to grapefruit, there is a lot of it. It is now of vastly better quality than that which came upon the markets a little earlier. Considering which, it is very unfortunate the earlier shipments effectually "cured" many consumers of a taste for grapefruit. The sugar shortage has become far less acute, and the public soon will be accustomed to the higher prices of sugar sufficiently that they will not cut a figure in the consumption of grapefruit.

Summing things up, it looks as if oranges ought to do a whole lot better in the matter of price, and grapefruit a little better. Yet so many are the complexities, and so great the possibilities for guessing wrong, it would be a hardy prophet who would hazard his guess without leaving plenty of room to turn around and back out.

As for lemons, there is apparently no relief in sight until warmer weather has brought its stimulating effect with the increased use at soda fountains and in lemonades. Apparently no one has heretofore realized the extent to which the bars created a winter demand for lemons, and with John Barleycorn on his back and this demand eliminated, there appears to be nothing to do but await the coming of hot weather with its increased demand for drinks in which lemon forms the basic element. California lemon growers are accounted resourceful, and eventually they probably will find an outlet to replace the elimination of the saloon as a winter consumer of lemon drinks, but for the immediate future warm weather seems to offer the only solution.

**GOOD SEASON FOR ISLE OF PINES**

The grapefruit crop of the Isle of Pines was much greater this season than for many years. The growers were providentially spared the customary visitation of hurricanes and the crop which often is scattered promiscuously about the island was left upon the trees.

Shipments began early, entirely too early for the reputation of the fruit, as much of it reached the markets of the United States in unfit condition. By the close of September, before the first of the Florida crop had begun to move, fully 80,000 crates of grapefruit had been shipped from Nueva Gerona, and shipments since that date brought the figure up to more than a quarter of a million crates.

While the greater part of the island crop went to New York and other Eastern markets, there were considerable consignments to New Orleans and Chicago dealers, as well as to other Western distributing points.

Being first on the market, the early offerings brought exceptionally good prices, though the shipment of unripe fruit tended to bear the price after the first receipts had been tested. Later on, however, with the offering of a better grade of fruit, the prices recovered somewhat, and it is reported that the growers of the island realized a much greater income from their fruit than they have known for many years.

**CITRUS INDUSTRY WELL RECEIVED**

The first number of *The Citrus Industry*, issued as it was under many difficulties, met with a surprisingly hearty reception on the part of citrus interests. The first number demonstrated beyond doubt that there exists a demand for such a publication—a demand greater even than the publishers had anticipated.

Following the mailing of the first issue, every mail brought dozens of letters of commendation and proffers of support, together with scores of orders for subscription.

The Citrus Industry would like to print and personally acknowledge each one of these letters, but as this is obviously impossible, we take this manner of thanking our well-wishers and assuring them that *The Citrus Industry* in its future issues will endeavor to merit the many expressions of appreciation and confidence bestowed upon it by its numerous friends.

**BUILD FOR THE FUTURE**

One believer in good roads has said: "Roads must be built with the requirements of ten years in the future in mind. Low cost of road building that means high cost of transportation is penny wise and pound foolish."

It is the truth. In the past we have not appreciated this truth. Or, if we did build for the future, we had a very poor conception of the needs of the future. Today many sections are calling for the passage of ordinances prohibiting the use of heavy trucks on the public roads. What we need is roads which will sustain the traffic of the most heavily loaded trucks.

In the future we will, and at present we should, build our roads to meet the requirements of the heaviest traffic. Let us begin now preparing for the future so as not to place a handicap upon farm operations.

Fortunately, the Florida highway department appears to appreciate the needs of the future in present day road building.

Permanency will be the keynote of highway construction in Florida during the year 1920, for the State Road Department has gone on record in favor of three types of surfacing material, each of which it is believed will prove equal to the demands of traffic in this State for many years to come.

The materials upon which contractors are invited to submit bids are grouted brick, concrete and bituminous macadam. Where brick or concrete are selected the surface of these materials is to be 9 feet in width, with rock shoulders  $\frac{3}{4}$  feet in width on each side of the surface, making a road 16 feet in width. Where bituminous macadam is selected the surface is to be 16 feet with a concrete curb. The base of this latter type is to be 5 inches in depth with a 3-inch top. Bids were invited for 54 miles of these types of road which were opened January 14th, and it is planned to open bids for approximately 10 miles to 15 miles additional before the end of the month of March.

While it is estimated that roads of the classes named will cost approximately \$20,000 to \$25,000 per mile, including drainage structures, this cost may be somewhat lessened through the State Road Department being able to supply contractors with a force of laborers who will always be "on the job," without any possibility of strikes or walk-outs. These laborers constitute the state road force of Florida, which, on January 1st, 1920, was augmented by the addition of something more than 100 able-bodied State prisoners who have heretofore been under lease to firms and corporations engaged in the manufacture of naval stores.

The abolishment of the convict lease system and the placing of all State convicts capable of road work under the supervision and control of the State Road Department, marks a new era in road construction in Florida. The entire State road convict force, consisting of approximately 650 men, is now engaged in clearing and grubbing rights of way for State roads which are included in the 1920 program for hard surfacing.

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Every citrus by-product factory conducted along legitimate lines, is a boost for the industry.

---

Senator "Pat" Harrison of Mississippi is a citrus enthusiast. At his home on the Beach near Biloxi, Miss., he has a small but well tended grove of Satsumas of which he is very proud. During the recent fight on citrus blight in his state, he took an active part in co-operating with the growers to eradicate the pest.

It is time to plan for the early spring work in the groves.

---

Present fertilizer costs put a premium upon careful buying.

---

Is your county agent co-operating with you? And are you co-operating with him?

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*Phomopsis citri*, the fungus which is responsible for melanose, also is the cause of stem-end rot.

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One admirer of The Citrus Industry writes that he likes our platform. We trust that it is broad enough and strong enough to hold every well-wisher of the industry.

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The rapid increase in grapefruit shipments from the Imperial Valley is attracting wide attention. More than 40,000 grapefruit trees are said to be in bearing there this year.

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Insect pests and rodents, it is claimed by government experts, cost the fruit growers of the country more than \$140,000,000 yearly. What portion of this preventable cost are you bearing?

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The Tenth Annual National Orange Show will be held February 13 to 23 at San Bernardino in a new site in Urbita Springs Park. The exhibit space will be increased about 50 per cent.

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The war did citrus growers one lasting favor—it taught many people the value of citrus fruits who had previously been strangers to the diet. For that one act, citrus growers owe the food administration a debt of gratitude.

---

**SHOULD BE THANKFUL**

Florida citrus growers should be thankful.

True, the yield of fruit has been less than early estimates of those overly optimistic indicated; the price has not been as high as many a grower had hoped; the droppage has been greater and decay more pronounced; the car shortage and a temporary embargo have operated to curtail shipments at a time when demand was greatest.

But with all this, we contend that the Florida grower has reason to be thankful. He has harvested a fair crop of excellent quality for which he has received at least an average price. He has been able to get a fair proportion of his crop to market, and so far he has escaped injury to crop or trees from storm or cold.

But these are among the smaller matters for which the Florida grower should be thankful.

His one great cause of thanksgiving lies in the fact that he has escaped the reign of the Bolshevik and the I. W. W. who has threatened, if he has not actually invaded, about every other section of the Union. Whatever ills may have attended the Florida citrus growers, he at least has escaped the greatest of all ills.

# frozen Texas Groves Recovering

By A. R. Pratt

I have just returned from an extended trip through the Texas coast country, and while my purpose was not, primarily, the inspection of citrus groves, I could not fail to note the great activity of grove owners in that section of the Satsuma belt.

When I first visited the Texas citrus belt some five years ago, I was surprised at the development being made, and at that time I expressed the opinion that the growers of Texas were preparing to give their fellow-growers of Louisiana, Mississippi and Alabama a "run for their money" in the race for leadership in the Satsuma field.

Since then, however, the Texas groves have suffered a severe setback through the heavy freeze of two years ago, and I had been led to believe from various reports received, that many of the groves had been totally destroyed and others permanently injured.

By reason of these reports, which I had accepted at face value, I had been led to prejudge conditions, and I was wholly unprepared for the conditions which I found actually to exist in the Texas field. Instead of ruined groves and discouraged grove owners, I found hundreds of thriving groves and many optimistic grove owners.

It is true that the Satsuma groves of Texas suffered much from the excessive cold of two years ago, when the mercury stood many degrees below the freezing point for a period of many hours, establishing a new low record in others. Because Texas grove owners in general had not learned the art of tree protection, or because they had failed to practice it, their groves suffered in a much greater degree than the groves further east in the Satsuma belt where owners practiced better cultural methods and took greater precautions to protect their trees.

In many of the younger groves, the damage was very great, the percentage of trees lost running very high, though first estimates, which ran variously from 50 to 90 per cent loss, were found to be excessive when actual conditions were realized. In few groves, indeed, did the maximum damage exceed the minimum estimate, while in favored localities well protected groves came through with only slight damage, compared to the

first gloomy anticipations.

But whatever the original damage may have been, the groves of the Texas belt today are showing wonderful recuperative powers, and where proper care and attention has been given, few traces of the freeze are to be seen. New, vigorous, healthy young growth has covered up the scars, and unless one knows in advance of the damage suffered, there is nothing in the appearance of the groves today to indicate that two years ago the owners were facing the prospect of total annihilation.

Of course, it is true that during the past two years the Texas crop has been negligible. That was to have been expected following such a freeze with the trees almost wholly unprotected and grove owners ill-prepared by experience or scientific knowledge to meet the conditions which confronted them. But for the most part, Texas growers are men of intelligence, enterprise and resource. Also, they are stayers. The Texan never is whipped, or, if he is, he fails to realize it. He just fights on.

So with the Satsuma growers. They realized that they had met with a tremendous loss, but they never thought of lying down and quitting the game. Instead, they began taking stock to see what was left with which to make a new beginning. While they were still taking stock, word came to them that the damage suffered by the Satsuma growers to the east, along the Louisiana, Mississippi and Alabama coasts, had been much less than their own, although the records showed an equal degree of cold.

That started an investigation. "Why?" asked the Texas growers. Their stock was of the same kind as that grown further east. Why, then, should their loss have been greater with an equal degree of cold. The answer was not at hand, so they sought it.

When finally threshed out, it resulted in this: That cultural methods pursued by the eastern Satsuma growers were different—possibly better; that greater precautions had been taken to protect the trees. Also, they learned that protection is possible through culture—that proper cultural methods in themselves constitute a protection through the

growth of a hardier tree.

Then experts were called in. State and federal agents were consulted, and the best methods of restoring their groves and recouping their losses were studied. The result of these investigations is to be seen in the many thriving groves which now dot the coast region of Texas from Port Arthur on the southeast to the lower coast region in the southwest. So wonderful has been the transformation that few traces indeed can be seen of the late disastrous freeze. Instead, the landscape presents a pleasing view of healthy, thriving groves, with never a hint of the threatened extermination so lately passed through.

The Texas Satsuma crop this season was very light. Two years cannot fully restore trees which have been so near the "valley of the shadow," not even with trees possessing the quick recuperative powers of the Satsuma. Still, in many of the markets of the state, the Texas Satsuma was no stranger this year. True, buyers in the markets of the north were forced to seek their source of supply for their favorite fruit in other sections, but many a Christmas dinner was regaled by the presence of the home grown golden beauties, rich in sweetness and deliciousness of flavor.

The present winter has been most favorable to the groves of this section. There has been no excessive cold, and with present cultural methods and precautions for protection, it will require a hard freeze, indeed, to wreak such havoc on Texas groves as was experienced two years ago.

By next season, I am fully convinced, the Texas groves will produce a fair average crop. Backed by the mature roots and the old parent trunk, the new and vigorous young growth should be in ideal condition for fruit production, and I shall be surprised if the Texas fruit next season does not find its way to many of the northern markets which formerly knew its delicious flavor.

I am more firmly convinced than ever that the Texas growers are preparing to give their eastern brothers a "run for their money," particularly as many new groves are being planted all over the coast country in ever-increasing numbers, while the demand on nurserymen for new stock is constantly growing greater.

# Citrus fruits State's Biggest Asset

By George Adkins

The greatest asset of any citrus growing state is its citrus fruits.

This statement is absolutely true, even though citrus may not represent in dollars and cents the highest value of the state's resources. It is true because whatever the actual proportionate value of citrus to other crops, industries or resources, citrus constitutes the greatest advertising asset of any state in which the fruit is grown.

Whatever of distinction California may have gained as a grape growing state, or a fig or prune growing state, whatever of distinction may have come in later years from the development of great wheat fields, none of these have detracted in the least from California's reputation as a citrus producing state. Not even California's gold mines of the early days brought to the state such great and lasting publicity as the citrus fruits which constitute the state's great wealth of gold. When people think of California, they think of oranges, lemons and grapefruit—all else is secondary to the citrus crop in the mind of the stranger.

Not Florida's phosphate mines, nor her fisheries, nor her great crops of truck or her wealth of strawberries has brought her distinction. Not even her inimitable climate nor her never-failing sunshine have brought to her the lasting distinction of her citrus fruits. When people think of Florida, they think of balmy days, limpid nights, soft blue skies and health-giving sunshine, it is true, but in the foreground, not obscuring, but softening the effect of all else, is the thought of the luscious orange the mammoth grapefruit, the delicate tangerine.

And it is so of Porto Rico. No one thinks of Porto Rico as the home of the coffee berry or the baronial sugar estate. No; it is citrus fruits which first occurs to one who thinks of Uncle Sam's possessions in the West Indies.

Even were the citrus growing states to attempt to sidestep the reputation which nature has thrust upon them, it would be impossible.

Other crops can be, are and will be grown in the citrus sections, but however great may become their production in commercial value, citrus will continue to be the one big asset of every state devoted to citrus culture.

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citrus grower cannot diversify. His groves once planted, are planted for a lifetime. The citrus grower, unless his holdings are of vast extent and he a man of varied resources, must be a citrus grower exclusively. His acreage permits of no subsidiary crop. His groves demand his time to the exclusion of all other interests. Besides, the citrus grower believes in himself and his calling as few others engaged in agricultural or horticultural pursuits do believe. He is a citrus grower. That tells the whole story. It is the beginning and the end. For him it is all of life.

So, while other crops will be grown in the citrus belt, and while the growing of such crops will be welcomed by the grower, the actual growing must be done by men outside the citrus industry.

And while such crops are annually increasing in extent of acreage and commercial value, while fields unsuited to citrus culture are being developed for general farming or trucking purposes, while wheat and cotton, corn and cane, truck and berries are finding an enlarged field in the citrus belt, citrus continues and will continue to be the big asset, both in local and outside interest.

Herds of cattle, flocks of sheep and droves of hogs may increase in number and value. Waste places may be turned into productive pastures for the feeding of uncounted herds, the prairies and the woodlands of the citrus belt may supersede the plains of the west as the grazing grounds of America. Yet livestock, important as this industry may become, will not replace citrus as the primary and outstanding asset of those states in which nature has made possible the culture of citrus fruits.

As other interests grow, the citrus industry will keep pace. There is an ever-growing demand for citrus fruits, to meet which new groves must be planted, new lands cleared, wider areas embraced.

Yet, not here is to be found the true reason for the outstanding prominence of citrus fruits in the advertising of any section in which citrus is produced. Rather, the reason is sentimental and poetic. As Longfellow in his poem forever established the glory of the "country of the Evangeline," so, in the popular fancy, citrus fruits and citrus culture are associated with soft skies,

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"The extent of the disease in Florida, where the citrus industry is of great magnitude, has been very greatly reduced. In that State, where the total number of properties found to be infected was 479, scattered through 22 counties, the number remaining under quarantine has been reduced to 47. Only 15 canker-infected trees were discovered during the first six months of 1918. The malady is of such highly infectious and virulent nature, however, that it will be necessary to continue the work in all the citrus-growing areas of the State for some time after the orchards appear to be clean in order to prevent the possibility of outbreaks from any latent or inconspicuous infection that might have escaped the observation of the forces.

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Generally speaking no industry or interest in the United States is more closely dependent upon good transportation conditions than is the citrus industry. With large areas and tremendous investments in properties devoted to the production of a highly specialized crop which cannot by any chance be consumed at home, the citrus men of California and Florida are absolutely dependent upon the railroads for the transportation of their products to markets where they are consumed.

The generally demoralized condition of the railroads, which lead to their taking over by the government during the war, was so generally recognized that shippers at the time welcomed the intervention of federal authorities. Those in favor of government operation in theory were inclined to rejoice at the time in the opportunity thus afforded to try that theory out. Even those opposed to government operation, who felt sure it was entirely impracticable, were bound at the time to admit the necessity of such action. It was the only way out at the time.

There is no doubt the railroads had broken down, both in point of service and in morale of their forces. Whether or not the fault lay with the old managements, however, is another matter entirely. In justification of those managements let it be said there are a number of things today accepted as facts in connection with the situation then prevailing which have been slow to come to the surface, and which generally were unknown to the public when the government stepped in. We knew then that the railroads were demoralized. We knew that the nearer they approached the great Atlantic ports the greater was that demoralization. Between Philadelphia and the port of New York alone there were something more than eight thousand cars of stuff for export filling the available sidings and occasioning endless confusion. We have since been told this was no fault of the railroads,

but the materials in question had been carried to the seaboard in the ordinary course and the almost indescribable congestion was due to the failure of the shipping program, and the refusal of representatives of our own and other governments to allow the unloading of these thousands of cars alongside the tracks.

It has also been told us that the first thing our government did was to commandeer the best motive power equipment of many of the eastern roads with little or no notice, hundreds of our best engines being shipped abroad. The railroads thus were very severely handicapped. Of course, detailed information of this nature could not be made public at the time for fear of communicating to the enemy information of value. Thus the public largely was ignorant of the cause of many of the troubles of the railroads, but it did know there was something radically wrong, and prayed prompt action to remedy it as far as possible.

The real trouble of the railroad managements, and for that matter the basic difficulties of our entire present transportation muddle seem to have come out of the enactment of the Adamson law. This well meant action by the President and by congress was for the purpose of averting a gigantic strike which would have tied up our national avenues of transportation for a time. Though meeting with general approval at that time subsequent events seem to prove the Adamson law to work to the detriment of railroad employees and the public as well.

After a certain amount of experimenting, and testing of the theories widely advocated by orators abroad and at home, we are beginning to appreciate there are a lot of so-called economic reforms which sound a lot better when uttered in advance of an event than they do afterward. It is the old case of foresight and hindsight. We are beginning to believe the old law, "It's a poor rule which doesn't work both ways," contains a big element of truth. We are coming to realize our government cannot step into any existing controversy and settle it satisfactorily by making certain definite guarantees to one side of the controversy. Such action inevitably places upon the government the responsibility later of making things equally satisfactory to

the other side, which, of course, involves certain definite guarantees. The third dimension of any industrial controversy of any nature is the public. Therefore, after the first side, and later the second side, of the controversy have been placated by concessions gained by arbitrary legislative enactment, it must remain for the third side to be satisfied, or else the government has failed in its duty as the guardian of the interests of all the people.

It is reasonable to believe the great bulk of our people, and particularly those composing official Washington, now realize the truth of the foregoing. However, at the time the Adamson law became a fact, there was a considerable element who claimed the simple panacea for any existing industrial or political ill was the enactment of some statute by which the government declared that ill abolished, even though primary causes were not removed. This element largely was that which also showed great faith in the written thesis as a corrective in unpleasant situations both of a domestic and international nature. Whether this element since has become less certain of the correctness of some of these theories then so ardently advocated or simply has lost its ability to influence thought and action it would be difficult to say. It is sufficient for us to know it either is not heard from, or not listened to, to the extent it once was.

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meant less efficient service. The latter developments, during more than a year's operation since the signing of the armistice, have only served to intensify these beliefs. Notwithstanding ardent advocacy of the Plumb Plan and other near-economic plans, in some quarters, it is entirely safe to say any proposal for government ownership or operation of our railroads today is a dead issue. It meets with no degree of confidence upon the part of any considerable portion of the people.

Now that the time for the relinquishment of the railroads by the government nears, the question of the future of the railroads becomes one of absorbing interest. The truly outstanding feature perhaps is the apparent inability of congress to cope adequately with the situation which has arisen. Not long ago the Gridiron Club of Washington, which is composed of newspaper men representing at the capital the press of the country, staged during its annual dinner a skit in which were represented Mr. McAdoo, Mr. Hines and Mr. Railroad Investor. The first Director General borrowed the investor's silk hat in which, with all the agile art of the presdigitor, he proceeded to break eggs and mix them for an omelet, constantly reassuring the owner of the hat it would turn out all right. However, he suddenly abandoned the undertaking and turned the hat over to Mr. Hines, whom he called in, and who, most unfortunately, was unable either to complete the omelet or to restore the hat to the owner in anything like its original condition. The Gridiron Club's fun often is very pointed; and the conclusions thus deftly presented may be said to represent in general the opinion of the people of the country.

The eggs are badly scrambled, and neither congress nor any of its numerous voluntary advisers up to the writing of this article, during the third week in January, have been able to reach any really satisfactory conclusion as to what had best be done about it. It is safe to say both the Esch bill and the Cummings bill fall far short of being satisfactory to railroad owners, railroad employees, shippers or the general public. What can emerge from a conference for the purpose of adjusting the provisions of each of these to fit the other, therefore, it seems safe to say, must be equally unsatisfactory.

The situation might be more heartening to citrus growers and shippers if activities of representatives and senators from the citrus producing

areas were more apparently manifest in the effort to restore transportation to a degree somewhat approaching pre-war service. Looking at the railroad situation from a citrus angle, we find the service at present even worse than during the war. We have seen a lot in the dispatches about numerous "farmers organizations" favoring the retention of the railroads by the government, or some form of government operation. In view of the practically unanimous sentiment among citrus growers against any such thing, the writer feels the next person making such a statement for purpose of publication might well be called upon to prove it by giving the names of such organizations, the number of persons comprising their memberships and the names and addresses of such persons together with the acreage under their control and the products produced.

Citrus fruits, in common with other perishable commodities, have suffered severely from the breakdown of normal transportation during the last two years. Fruit has required so much longer in transit that losses from decay have been frequent and heavy. Empty cars are returned much more slowly than heretofore. The much greater time consumed by cars for the trip to the markets and return for reloading meant necessity for more cars suitable for fruit loading or else shortage of cars. As there was no increase in the number of cars suitable for fruit loading there was inevitably a car shortage, with fruit backing up at the packing houses and further losses to growers. Various arbitrary rulings, hastily put into effect by certain officials without consideration for the tariff or legal rights of shippers likewise have from time to time been very costly during the periods they were in force, before their authors were induced to modify or withdraw them.

Also, if the longer time required for cars in transit makes necessary more cars it means more expense through greater capital investments. Likewise, it must mean more men required for operation of the train service of the various railroads, and thus more expense again. We do know the losses which the public must meet through taxation, because of failure of the railroads to earn their way, are much greater than would seem to be required for the payment of added wages to the former number of employees.

There are said to be approximately two million railroad employees in the United States today. There are

something like forty million workers engaged in other things. There seems to be good reason to question the advisability of guaranteeing the two-million against the high cost of living when the forty-million must pay the bill and they are left without any guarantees.

Similarly there seems good reason to question the advisability of guaranteeing the railroad investors of the country against various present high costs, when it is the owners of the farms, the orchards, the factories and other businesses who must pay the bill and these are left without any guarantees.

If we are willing to admit that simple legislation on the spur of the moment fails as a panacea for our industrial ills, we may be able to make a new beginning by inducing congress to keep its hands off industrial problems. In which case, if we can obtain a full and impartial enforcement of ordinary police laws, and the law of supply and demand is given a chance, it is the opinion of older men, who went through the times of industrial unrest which in the north followed the civil war, things will right themselves.

Citrus men want railroad service, need railroad service, must have railroad service. They are paying for it today at the highest rate in the history of the industry. They are not getting it. That is where the shoes pinch. In view of which they are inclined to question the advisability of guaranteeing anything to anyone unless some very definite guarantees are offered to the citrus men in return.

#### CITRUS DRINKS POPULAR

##### IN LEADING HOTELS

Prohibition is teaching hotel managers two important things: First, that women really enjoy the intimate atmosphere and the conviviality of the hotel buffet; and second, that soft drinks made with fresh fruit juices are the most popular, according to Roy Carruthers, manager of the big new Pennsylvania hotel in New York City and right hand man of E. M. Statler, famous operator of a chain of Eastern hotels.

"In our experiments with soft drinks," says Mr. Carruthers, "we find a decided preference for fresh fruit beverages. We have equipped our bar with electric orange and lemon juice extractors which handle the fruit economically and quickly."

Over half the new prohibition cocktails and other beverages listed on hotel menus are made with oranges or lemons.

# Citrus Growers



P. K. VAN VALKENBURGH

Managing secretary of the Florida State Automobile Association who says that Citrus Growers form the backbone of the association and are among the most active and ardent advocates of better roads. "Thanks to the encouragement and support of a great many of the bigger men of Florida" says Mr. Van Valkenburgh, "we have succeeded in bringing the Florida State Automobile Association to the point where it is by far the biggest public service organization in the state."

# The Florida Citrus Crop

In the view of the best posted growers and shippers in the state, approximately fifty per cent of the citrus crop of Florida remained on the trees on January 25. While the estimates of various citrus factors varies a few points above and below this general average, it is safe to say that one-half of the crop still on the trees represented the composite estimate of the best posted citrus men in the state on the date mentioned.

Weather conditions have been particularly favorable throughout the winter; and this has been particularly true during the month of January. There has been just enough cold to properly ripen and color the fruit, without even the slightest danger of damage to the fruit itself or to the trees.

This condition of the weather at the time of this writing also is particularly favorable to the shippers, and the fruit is arriving at the markets under ventilation in excellent condition, and there has been little or no complaint of fruit arriving at destination in unsound condition.

The pack and grade in general this season has been very good, and there is noted a general tendency among both growers and shippers to improve the pack and grade. This tendency has been particularly pro-

nounced during the present month and the co-operation between growers and shipper in this regard is evidence of the growing disposition on the part of fruit men to place Florida fruits on the highest plane possible in the markets of the north.

Growers and shippers have experienced but little difficulty in securing crate material, paper and other shipping material. In fact, the only difficulty experienced in this line has been occasioned by poor transportation facilities. So far as the mills and supply houses are concerned, they have been able to meet the requirements of growers and shippers promptly and in adequate quantities.

Market conditions for Florida fruits in the markets of the north and east at this time are very favorable and shippers see no reason for any immediate unfavorable change in these conditions.

While the present season has not been an exceptional one for either the grower or shipper, it has been a fair average, and no one connected with the industry appears to show disposition to complain. The season has not borne out the expectations of the overly optimistic, but, on the other hand, it has, up to this time, proved much more favorable than many were inclined to believe earlier

in the season. There was in many sections an excessive shrinkage in yield through droppage, but this appears to have been only an effort of nature to rid the trees of a surplus of undeveloped fruit, leaving upon the trees a fair crop of excellent quality. This crop has been marketed under favorable conditions and at prices which up to now have been fairly satisfactory to the grower. The shipper in turn is now disposing of his stock under favorable conditions in markets which are seeking high class offerings.

Cold weather covering a wide area of territory in the North and East for a week or more after the 20th of the month, and which interfered with the speedy distribution of the fruit, constituted the most unfavorable condition met with by shippers. Congestion of fruit in distributing centers operated to lower the price in those centers while limiting the supply in smaller markets dependent upon such distributing points.

Viewed from the present condition of the crop in the groves, the availability of crates and packing material and the general condition of the market, the Florida growers and shippers are inclined to view the situation with much more equanimity than marked the opening of the season.

## Combat Influenza With Grapefruit

Florida grapefruit is being used in carload quantities to combat the spread of influenza in Chicago. Dr. P. Phillips of Orlando, now in Chicago, wiring for two cars of grapefruit to be sent to Mayor William Hale Thompson for distribution.

Dr. Phillips said that Mayor Thompson may order more grapefruit. Two cars in bulk already have been sent to Chicago in care of Mayor Thompson.

The usefulness of grapefruit and oranges, widely demonstrated during the influenza epidemic of last winter, makes the present large Florida crop a matter of much importance to the entire country, according to Dr. Ralph N. Greene, state Health officer.

While citrus fruits were liberally prescribed by physicians and freely recommended by health officials at the time influenza swept over the United States in November, 1918, the supply on the market was not

sufficient to meet the extraordinary demand and in many places grapefruit and oranges could not be obtained.

The California crop had been practically exhausted when the influenza outbreak occurred, and the season's output of Florida groves was just beginning to become ripe enough to ship. While the epidemic was at its height, in a number of the larger cities and in most of the smaller towns, the markets were bare of grapefruit and oranges for days at a time.

This year Florida has the largest crop of grapefruit and oranges in its history. These fruits are now fully tree-ripened, and are moving to markets in vast quantities. There will be plenty for everybody, Dr. Greene believes, so that Florida may assist materially in the fight on influenza, which apparently must be made again throughout the United States.

When influenza was most serious

in Chicago, during the fall of 1918, Dr. Augustus O'Neill, chairman of the Spanish influenza committee of that city, and one of its leading physicians, issued a bulletin urging use of grapefruit juice in the treatment of the disease. Dr. Henry P. Backer of New York City, Drs. Hawley and Wolfstein of Cincinnati, and leading physicians in many other places, advocated the prescription of citrus fruit juices in influenza cases, according to dispatches carried by the Associated Press at the time.

### Featured in Medical Journals

Comment on the splendid results obtained from grapefruit and oranges became a noticeable feature of medical journals, the editor of one of which referred to them as "essential sick room requisites." Another said that "as a remarkable thirst quencher in fever cases the orange now is established as possessing certain curative properties, or at least, pos-

(Continued on page 23)

# They Like The Citrus Industry

"The first number of The Citrus Industry was a dandy. I like it and I want to see every number—but it must have cost you a lot of money."—James T. Swann, manager Swann Groves, Florence Villa.

"I want to congratulate you on the first number of The Citrus Industry. I like its editorial tone and the character of its articles. It is a distinctive publication covering a broad field and should meet with a wonderful degree of success."—J. P. Dwyer, Oldsmar Tractor Co.

"I am a long ways from home, but The Citrus Industry makes me smell the orange blossoms. I want to become a permanent subscriber, and hope before long to be back in Florida among the lakes and citrus groves."—T. L. Edington, Cayuga, N. Y.

"I have just received the first number of The Citrus Industry, and like it very much. It is a fine publication and I want to enroll as a subscriber. Enclosed find \$1 to carry me through the year."—J. T. Reel, Santa Ana, Cal.

"Enclosed find remittance for one year. Also please send copies to list of six enclosed."—Chas. A. Dyke, Eustis, Fla.

Jacksonville, Fla., Jan. 23.

Editor Citrus Industry:

Put me on your list as a subscriber. I have a grove in Polk county and think you are making a good move.

Geo. W. Smith.

New Orleans, La., Jan. 19.

Col. S. L. Frisbie, Tampa, Fla.

Just received the first copy of the Citrus Industry and it looks mighty good to me. You certainly ought to make a success of the publication. You have chosen a broad field and the magazine appears to cover it thoroughly.

Otto C. Lightner,  
Pres. Lightner Pub. Corp.

The Citrus Industry is the name of a new magazine published in Tampa. S. L. Frisbie is the editor and manager. The magazine, which will appear monthly, is devoted entirely to the citrus industry, as its name would suggest, and from a careful reading of the initial number, we pre-

dict it has a bright future. We cheerfully recommend it to all our readers who are interested in any way in this important Florida industry.—Central Florida News.

We have received the first number of the Citrus Industry, published at Tampa, Fla., with Col. S. L. Frisbie as editor and manager. Louisiana people who know of Col. Frisbie's work as editor of the Daily Signal and with the Rice Journal, have no doubt that he will make a success of the Citrus Industry. Citrus interests are to be congratulated on having such an able publisher as an advocate.—Crowley Daily Signal.

Col. S. L. Frisbie, who formerly published the Daily Advertiser at Biloxi, is now the editor and manager of the Citrus Industry, a monthly magazine devoted exclusively to citrus fruits and published at Tampa, Fla. His many Mississippi friends congratulate both Col. Frisbie and the people interested in citrus growing. The first number indicates that the Citrus Industry will be a success from the beginning.—The Daily Herald.

The Citrus Industry, a monthly magazine devoted to citrus fruits and published at Tampa, Fla., has just been received. It is under the editorship and management of S. L. Frisbie, formerly managing editor of the Beaumont Daily Journal, and at one time connected with the Rice Journal and also the Gulf Coast Farmer. Col. Frisbie is known as one of the best publishers in the south and the Citrus Industry shows unmistakeable signs of his guidance in its make-up and editorial columns.—Daily Journal.

Arcadia, Fla., Jan. 21.

S. L. Frisbie, Tampa, Fla.

I congratulate you upon the general appearance and contents of the first number of the Citrus Industry. I look for you to make a big success of this undertaking, and believe it will prove of much benefit to the industry.

E. R. Jones.

Weirsdale, Fla., Jan. 21.

Editor Citrus Industry:

I am sending you \$1 for a year's subscription on the strength of your platform. Tell us all about it, so we can know what is going on in the

industry.

T. B. Snook.

Punta Gorda, Fla., Jan. 20.

Mr. S. L. Frisbie, Tampa, Fla.  
Send me the Citrus Industry. I want to become a subscriber to a publication which will furnish pointers on citrus culture, etc.

Joseph H. Dunnett.

Ocean Springs, Miss., Jan. 20.

Editor Citrus Industry:  
Send me the Citrus Industry. It is just the kind of publication we have long been wanting. Your first number looks like a success.

George Burnett.

The first number of the Citrus Industry, a monthly magazine devoted exclusively to citrus fruits, has been issued. It is published in Tampa and is a dandy little magazine covering every phase of the citrus industry with interesting articles by many writers.—Tampa Daily Times.

Tampa is the home of a new magazine, the Citrus Industry, devoted exclusively to citrus fruits, and covering the field, not only in the United States but in Porto Rico and the Isle of Pines as well. The first number makes an excellent showing. S. L. Frisbie is the editor and manager.—Tampa Tribune.

Jacksonville, Fla., Jan. 23.

Mr. S. L. Frisbie, Tampa, Fla.

We were very much interested in the first number of the Citrus Industry which reached us recently. Let us congratulate you upon its appearance and wish you every success with your new venture.

Armour Fertilizer Works.  
By M. J. Schubert.

Biloxi, Miss., Jan. 24.

Citrus Industry, Tampa, Fla.

I have received the first copy of the Citrus Industry and am now eating my grapefruit with salt and pepper. Formerly I ate it plain. Thank you for your suggestion. I like it better with the trimmings.

B. F. Mills.

The American Fruit Growers, Inc., has opened an office in Rialto in the packing house formerly operated by the Mac Rae Fruit Co., which will act as representatives for the company in that district.

# With California Citrus Growers

W. M. Bristol of the Wayup Ranch, on the East Highlands Mesa, has been having success with his method of non-cultivation of his orange grove. Mr. Bristol's plan has been to sow part of his grove to blackeye beans in June and the balance in August. From the first crop he harvests the seed for next year's planting. The later crop produces a heavy green covering which is plowed under in the spring. Mr. Bristol keeps a continuous flow of 20 inches of water on his 40-acre tract and his pumping cost has been \$700.

The Glendora Citrus association last year shipped 521,281 boxes of fruit, according to the reports which were submitted at the annual meeting. For this fruit, \$1,678,969.23 was received. The navel shipments were 221,165 boxes and valencias 282,889 boxes, miscellaneous varieties 16,226 boxes.

An interesting experiment is to be tried out to determine whether lemons grown in the Redlands-Highlands district can be cured in the same way as those grown in Ventura county. A box grown on the Lomoneira Rancho is to be sent to the All-Highlands lemon house and subjected to the same course of treatment as is used in the coast houses while a box packed in the interior district is to be treated at the Lomoneira packing house. The result will determine whether the successful method used by C. C. Teague in the north will prove satisfactory with fruit grown in the south.

The newly formed All-Highlands Lemon Association has organized with the following officers: President, H. R. Yerka; vice-president, J. S. Edwards; secretary and treasurer, H. W. Seager. A. C. Larrey was chosen as foreman. Work is progressing speedily on the association's new packing house which will soon be ready to receive fruit. This new lemon house will afford the lemon growers of the district a splendid outlet for their lemons which have heretofore been handled in the eleven orange packing houses of the Redlands-Highlands Fruit Exchange, of which the lemon association will be a member.

The Anaheim Citrus Fruit Association at its annual meeting recently held, elected the following directors:

J. J. Dwyer, C. E. Jones, J. B. Neff, G. L. Tolson, W. H. Rockwell, G. H. Goodale, Charles Eygabroad, of Anaheim and Geo. A. Mills and S. C. Hartranft of Fullerton. The report of Manager W. H. Schureman showed that the association last year shipped 125,353 boxes, the equivalent of 310 cars. Of this number about 258 cars were valencias and 49 were navels, the balance being miscellaneous varieties. The total refund to the growers for the year amounts to \$11,770.05. The association now represents an acreage of 2,048 of which 1,464 acres are five years old or over.

With the present new plantings of valencias it is estimated that in five years' time the ratio of acreage will be four of valencias to one of navels, according to men who have made the matter a subject of study.

At the annual meeting of the San Dimas Lemon association these directors were elected: Frank H. Harwood, Dr. Chas. L. Bennett, E. T. Cassell, W. B. Tangeman, A. P. Kerckhoff, W. W. Wilson, E. Wood. T. Roe Hobbs is the secretary and manager. Mr. Harwood was re-elected president and Mr. Tangeman as vice-president.

There is every evidence that Imperial Valley will come more prominently into the grapefruit market, more fruit of that type being raised each year in that section. County agencies report that there are 43,975 grapefruit trees in bearing this year, and a larger number not yet to the bearing stage. This year's shipments will exceed any previously made.

These officers have been elected by the Charter Oak Citrus Association for the next year: President, William Bowring; vice-president, W. H. Collins; secretary-treasurer, R. H. Middleton; manager, Dr. Hoogen-dyke; directors: W. H. Collins, H. B. Allan, W. E. Clopine, Martin Fesler and C. P. Colver. W. H. Milner was made foreman.

The officers of the San Dimas Orange Growers Association for the coming year are: President, E. W. Hart; vice-president, J. S. Billheimer; secretary and manager, E. M. Wheeler; treasurer, G. C. Platt; directors, W. A. Johnstone, H. B. Gil-

man, A. C. Phares, H. E. Walker and W. H. Johnston. The shipments amounted to 733 cars and the returns to \$993,492. It was shown in reports that while the returns were high the cost of production was greatly in excess of that of earlier years. The association voted to continue the assessment of one-quarter of a cent a box for fire protection and trail building.

Announcement is made by W. F. McShane of the organization of the International Marketing Co. of Los Angeles, with an authorized capitalization of \$5,000,000. Headquarters will be in Los Angeles. Mr. McShane announces that the company plans to handle citrus and deciduous fruits and vegetables. The company plans to furnish farmers funds with which to plant and harvest their crops and to market the crops for them. The company will advance funds on cantaloupes, tomatoes, cabbages, onions and on citrus and deciduous fruits.

An exceptionally early bloom has been noted on some navels in the Southern California districts. A similar bloom was noted after the 1917 heat wave and that it may be due to lack of sufficient moisture this past year, is the opinion expressed by some.

Some injury was done to young oranges and lemons in the path of the windstorm which blew three days late in November. It was a typical "norther" or "Santa Ana" and the wind was so charged with electricity and heat that some growers report a scarring of fruit and a curling of young tree growth.

J. W. Reed of Imperial Valley declares that the grapefruit from that district this year is far sweeter and better than any before produced. He also declares that it will keep longer than grapefruit from other districts. Mr. Reed has a 60-acre tract in grapefruit.

The internal decline of lemons, commonly called blossom-end decay, is regarded as of sufficiently serious importance by the Lemon Men's club to vote to co-operate with the Citrus experiment station to the extent of \$4,000 a year for five years, if necessary, in an effort to find a cure for the trouble. It is proposed to levy an assessment of 50 cents a car on all lemons shipped.

# Farming With Tractors The Cheaper Way

By Arthur B. Whallon, in *Nation's Business*

Plowing is the foundation of all farm work, and it is the farmer's hardest task—his peak load. To plow a single acre the farmer with a single team and a walking plow must walk eight miles. Some arithmetical sharp has arrived at the conclusion that to plow a square mile the man and team would have to walk 5280 miles. To plow three townships the plowman must travel as far as from the earth to the moon and back again, with a little hike of 60,000 miles left over.

Is it any wonder that "The ploughman homeward plods his weary way?"

Now what does this labor of plowing mean in terms of man and horse power?

What is a day's ploughing? The Missouri College of Agriculture estimates that it requires an average of 3.4 hours man-labor and 9 hours horse-labor to plow an acre of land. The farmer with a four-horse gang plow, with two twelve-inch bottoms, plowing six inches deep, will plow an average of 4.12 acres in a day of 9.6 hours. With a three-horse single bottom riding plow, with a fourteen or sixteen-inch bottom, he will average to plow but 1.75 acres per day.

Consider, then, the task that every year confronts the American farmer.

It is estimated that there are about 6,700,000 farms in the United States, totaling about 478,451,750 acres of improved land. The population classed as rural is estimated at about forty-nine million, and of these, six million is a reasonable estimate of the number of actual farmers and farm laborers who must feed and clothe a population of more than a hundred million before any exportation of agricultural products is possible.

The motive power for the consumption of the farmer's great task has been, up to the past few years, almost wholly the muscles of the draft animal, not one acre in ten thousand being plowed by mechanical power. Yet, with all that can be said in his favor, the horse is the most inefficient motive power in existence, and he is the heaviest burden on the food producing capacity of the world—a burden that ultimately must be removed if humanity

is to escape famine.

The latest figures available before the war place the number of horses and mules in the United States around 25,000,000 and that of Europe at 41,346,000. Half of these numbers were farm horses. Now—with due respect to his long service for humanity—the working efficiency of the horse is low and the expense of his upkeep high. The average farm horse has a maximum walking draft at a speed of two and a half miles an hour of one-half of one-half of his own weight, and a twelve hundred-pound horse may develop four mechanical horse-power—but these figures can be maintained but for a few minutes at a time.

It is commonly allowed that the steady draft load for a horse for a ten-hour day is but little more than one-tenth his weight, and he delivers but from two to seven per cent of energy contained in the food he consumes. He works on an average 100 days in the year, but he eats and requires attention every day in the year.

The figures of the United States Department of Agriculture place the annual maintenance of a horse at a total cost of \$150 (a before-the-war figure that should be doubled today.) In terms of produce that means three tons of hay, fifty-three bushels of oats, and a like quantity of corn, or the crops from two and three-tenths acres of hay, one and eight-tenths acres of oats, and two acres of corn.

In other words, every individual of the twenty-five million horses and mules of the country requires the crops from two and three-tenths acres of land that would otherwise be growing crops for mankind, or to the production of cattle, sheep and hogs.

This means around 150,000,000 acres of horse feed, which if planted in wheat would double the wheat production of the country.

So much for the blameless burden of the horse. But expensive (forty per cent of the farmer's working expense is horse care), and inefficient as he is, he is not numerous enough nor powerful enough to fill the demand for more farm power. Of the twenty-five million horses in the

country before the war, close to a million have been taken by war's demands, and of the forty-one million in Europe, probably half have been lost.

The horse cannot answer the farmer's call for more power—not in time. It takes three years to grow a horse, and it is not possible to combine them into sufficiently large power units to offset the prevailing farm labor shortage.

Just as the insistent demand for more labor output per individual caused the manufacturer to substitute machinery for man-power, so will a similar greater demand, pressed by the economic pressure of the irresistible demand for more food, force the farmer to substitute mechanical power for animal muscle. The tractor must largely supplant the horse on the farm as the motor vehicle has replaced him in the city.

Tractor power multiplies the capacity of labor from three to ten times, and it removes nine-tenths of the risk of farming. With the tractor the farmer can do more work, and better work, and he can do it when it ought to be done.

The most popular tractor at the present time ordinarily pulls three plow bottoms. The daily output of plowing varies greatly with the nature of the soil and the skill of the operators. One man plowing with a tractor and a three-bottom gang plow will do more work than three men with teams and single furrow plows.

What this means to the farmer may be well understood when we remember that the farmer's work more than any other work, is seasonal. The difference between early and late plowing, between planting time and out of season, is to the individual farmer the difference between a good crop and crop failure, and in the aggregate to the world's peoples, that between plenty and famine.

The Kansas agricultural experiment station has demonstrated that winter wheat grown on land plowed in August at a depth of seven inches produces a crop of thirty-two and thirty-four bushels to the acre, while that grown on the same kind of land, but plowed to a depth of but three inches,

(Continued on page 25)

## Satsuma Growers Experience Good Season

By J. E. McPherson

Conditions generally in the Satsuma belt, save in the Texas area, where trees have not yet fully recovered bearing since the freeze of two years ago, have been fairly satisfactory. While the yield was not abnormally large nor the price exceptionally high, growers have had no reason to complain of either.

The yield of Satsumas in the Alabama and Mississippi groves was, on the whole, about an average, according to the best posted growers. In most sections of the Louisiana belt, the yield of "Louisiana Sweets" is reported as being fair, though in this state there was a greater variation in the yield of different sections than in either Mississippi or Alabama.

The quality of the crop throughout the coast region was exceptionally good, growing conditions having been

favorable to the fullest development of the fruit. There was no abnormal percentage of dropage, and the loss through waste and culls was less than usual.

The crop matured fairly early, and offerings were prolonged beyond the customary period, due to favorable conditions of the weather during the picking season. Whereas in ordinary years offerings are exhausted by the close of the Christmas holidays, this season much fine fruit was still being offered on the markets of Mobile and New Orleans after the middle of January.

In spite of the increasing competition of tangerines, which invaded the Mobile market in considerable quantities, the price received by growers has been very satisfactory, the price ruling around \$4 for really desirable fruit. In New Orleans, too, the price

has been maintained at a satisfactory level, and the demand from interior distributing points has been exceptionally good. While shipping conditions early in the season tended to curtail the movement for a time, the fruit was in excellent condition for holding and went forward in good shape later in the season.

During the planting season, the acreage of this fruit was largely increased through new plantings, and nurserymen throughout the belt report an active demand for stock, which in many cases they have been unable to supply.

On the whole, the season has been very satisfactory from the standpoint of the grower. With new groves coming into bearing and with comparative freedom from the more destructive citrus pests, the outlook for the coming year is bright for the growers of the Satsuma belt.

## Organize to Develop Florida's Resources

Florida citrus growers will be interested in the organization of the Florida Development Board, an organization of leading Florida citizens whose object is the greater development of the resources of the state.

While the development of the citrus industry will be but one of the aims of the organization, citrus as the greatest industry in the state and the one which must ever remain the greatest, will naturally come in for a prominent share in the efforts of the organization. Entirely aside from the direct efforts toward citrus development, any movement which tends to develop the resources of the state must inevitably redound to the benefit of the citrus industry.

The organization will co-operate with all trade and commercial bodies, will maintain an information bureau and will carry on an extensive campaign of publicity, all of which will tend to encourage, broaden and enlarge the scope of the citrus industry of the state.

The object of the Florida Development Board, which numbers among its membership some of the strongest and most progressive citizens of the state, as set forth in the constitution of the organization, is as follows:

The object of the Florida Development Board shall be:

To arouse in all the people of Florida and of the United States a

more adequate sense of the resources and opportunities of the state, especially as regards its vast areas of unoccupied and idle lands.

2. To unite the residents of all parts of the state in a common enthusiasm for Florida and in co-operative efforts towards its rapid and substantial development.

3. To conduct state-wide campaigns of education, looking to the complete eradication of the cattle tick, and the largest possible control of hog cholera and other animal diseases; the conservation of the forests and the better control of forest fires; the extension of the reclamation policy of the Federal government, so as to include the swamp and over-flowed lands of Florida; the development of the citrus, truck, live stock, fish and other sea foods, sugar, cane, phosphate, lumber and manufacturing industries of the state, and of all other industries adapted to Florida conditions; the development of permanent pastures and forage crops, and the introduction of pure-bred breeding stock; the more profitable marketing of farm and other products; the more generous support of the State Agricultural College and Experiment Station, and the establishment of experimental farms in various parts of the state; the adoption of such measures by the Federal Government, the state legislature

and the several boards of county commissioners, as will safeguard and promote the interests of the farmers, landowners, stockmen, fishermen, lumbermen, merchants, miners, manufacturers and other business and professional classes of the population; and the environment of rural life, especially by means of better schools, better highways, better sanitation and community activities.

4. To co-operate with all boards of trade, chambers of commerce, rotary clubs, boards of county commissioners, and other trade, civic and professional organizations, in the development of the state.

5. To maintain an information bureau for the benefit of tourists and intending settlers.

6. To establish and maintain a service bureau for collecting and furnishing, without cost to its members, information of a useful character which will assist them in the development and marketing of their holdings and products.

7. To discourage such land-selling and colonization schemes as are economically unsound and essentially dishonest.

8. And, finally, to conduct a nation-wide publicity campaign with reference to the great opportunities offered in Florida looking to the bringing in of settlers in large numbers and of the right character, upon the unoccupied lands of the state.

## Grapefruit Shipments from Isle of Pines

The following graphic description of early shipments of grapefruit from the Isle of Pines is given by *The Appeal*, a newspaper printed in English at Nueva Gerona, Isle of Pines.

While the scenes described transpired during the last week in September, when the early shipments of grapefruit from the island were at their height, the description will be of interest to citrus growers in the United States, as giving an intimate insight into conditions existing among growers and shippers in the Southern Island.

### The Appeal says:

Thursday, the last day of the shipping week was a "ringer." More than 8,800 crates of grapefruit went forward on vessels of the Isle of Pines Steamship Co. At Nueva Gerona deliveries began for the day at 5:00 a. m. Shortly after 7 o'clock crates had overflowed all available storage space in the dock and platforms were arranged outside on which crates could be piled, notwithstanding the fact that the steamer Campbell was in port and had begun taking cargo at 6:20.

Within a half hour after the arrival of the Colon she began to take cargo, and even following this with both steamers loading, cargo was taken aboard scarcely in excess of the rate at which it was delivered from the packing houses. It was not until after 6 o'clock in the afternoon when deliveries began to slack that any appreciable decrease could be noticed in the amount of cargo stored in the dock. Deliveries for the day's shipments continued to be made up to about 9:30 p. m. and when the last vessel had sailed more than 8,800 crates had gone forward as the result of the day's movement.

### Beginning of the Week

Sunday was the first shipping day of the week, when the Colon and the Aguila sailed with full capacity cargoes, carrying mostly New York consignments.

### At Nueva Gerona

The Dos Isabeles that was due on Sunday did not arrive, so that about 2,000 crates destined for Chicago could not go forward as scheduled. This made a very serious congestion which the Campbell, on Monday was in no way able to relieve, since trucks and wagons were lined up ready to fill space as soon as it was vacated. When the Campbell finished taking cargo there was practically no difference in the amount

of fruit stored ready for shipment.

On the arrival of the Dos Isabeles on Tuesday morning it transpired that the owner had diverted her to the timber traffic and accordingly it became necessary to send out advices that no new shipments could be received until the congestion was cleared up.

The Colon again took largely New York shipments and sailed only about 30 minutes late on Tuesday. Manager W. J. Mills left on the Colon for Batabano and Havana, in order to make sure of extra tonnage sufficient to move the accumulated fruit shipments, and to arrange to avoid any further delays. A wire from him late Wednesday afternoon instructed the steamship offices to send out advices calling for unrestricted deliveries of New York consignments, arrangements having been made for ample carrying capacity to move the shipments and also for a delay in the sailing of the Ward Line steamer that would permit shipments leaving here on Thursday to make connections by special train from Batabano with this week's sailing out of Havana. Within three hours after the arrival of the message practically every shipper on the Island had been notified and grapefruit began moving again before midnight. Thursday began a rush all around about which no one had dreamed. Automobile trucks and wagons kept the roads hot between packing plants and shipping points, men rushed to the docks to increase the stevedore gang, the spirit of making things move was contagious, and the desire to have a part in it was generally apparent even though it might be as only an onlooker.

When the Campbell was ready to load there was plenty of help at hand and no delay was experienced. An anxious crowd greeted the Colon on her arrival towing the sailing vessel "Pedro Muria." Only urgent incoming cargo had been taken by the Colon at Batabano so that loading of grapefruit began very shortly after she had docked, and both Colon and Campbell continued to take cargo as rapidly as possible. In the afternoon all three vessels were taking cargo at the same time. In order that the Colon might tow out the Pedro Muria the hour of sailing was delayed as late as was consistent with the time allowed for making the connection at Havana. Even with this late sailing hour it became necessary to

discontinue taking cargo on board the big vessel before her capacity was utilized, and this resulted in leaving in the dock one complete shipment consisting of one car for Chicago, the delivery of which was finished at 9:30 p. m.

### At Jucaro

Three trips for the Colon and two trips for the Aguila constituted the sailings from the port of Jucaro for the week. On each of these trips full capacity cargoes were carried, and resulted in taking all of the deliveries at Jucaro and Columbia. As at Nueva Gerona, New York shipments predominated. On the Tuesday trip the Colon towed the Aguila all the way through to Batabano in order that her cargo could be discharged to the special train that was made up to hurry all shipments in to Havana.

### Aggregate Movement for the Week

The total shipments for the week from both ports were about 18,000 crates and brings the total for the season to Sept. 27, up to nearly 75,000. Among the larger shipments were those from W. H. Brown to F. Opolinsky, New York, Upland Citrus Fruit Co. to Curran, Robertson & Jones, New York, J. A. Miller to Mills Bros., Chicago, Swetland Packing Co. to New York, W. E. Harris to Noble & Salter, New Orleans.

Friday morning the business did not open up quite as strenuously, the inclination being to take a few hours breathing spell. However, by night it was expected that in the neighborhood of 4,000 crates would be stored at shipping points ready to go forward on Sunday and Monday sailings.

### Buys Grove Interest

Cary C. Carlton this week sold to A. L. Durrance his fourth interest in the Z. N. Parker 100-acre grove near Arcadia. This is one of the most valuable grove properties in this section. Mr. Carlton has sold several of his property interests lately. He will go to Hot Springs, Ark., in the spring in the hope of getting relief from rheumatism from which he is a sufferer.

A. L. Durrance Thursday closed a deal with C. C. Pearce for 462 1-3 acres of land surrounding Mr. Durrance's grove. The consideration was \$16,180.50. Mr. Durrance will operate this as a stock farm, for which it is particularly adapted.

### ORANGE AND GRAPEFRUIT BUTTER RECIPES ARE RECOMMENDED

The citrus by-products laboratory of the U. S. department of agriculture at Los Angeles announces recipes for two new preparations which may be made from cull fruit, orange butter and grapefruit butter. C. G. Church, assistant to E. M. Chase, chemist in charge, at Los Angeles, recommends the following satisfactory recipes for two delicious butters:

**Orange Butter**—A product similar in many ways to apple butter. It spreads better than most marmalades or jellies, and is not so sweet. It is especially popular with children.

The fruit is washed, the stems and blemish spots being carefully removed. It is then cut into slices or small pieces, covered with water and cooked until the peel is tender; usually this takes two or three hours.

Granulated sugar, either beet or cane, is now added, using only one-half the weight of the fruit taken: that is, for every pound of fruit cooked, one-half pound of sugar is added. The mixture is cooked rapidly with constant stirring until a small sample, when cooled, has the desired consistency. It is best to cook beyond the jelly point. We like the product best when cooked to 225-227 degrees Fahrenheit.

As soon as it is sufficiently cool it is passed through a food grinder until all lumps are reduced.

**Grapefruit Butter**—The skin is removed from the fruit, leaving as little of the white material attached to the pulp as possible. The peel is then cut in small pieces and repeatedly boiled with fresh lots of water until, when a small piece is removed from the batch and tasted there is little, if any, bitter flavor left in it. The peel is then placed on a towel and thoroughly drained, the water being gently pressed from it.

If a bitter product is desired, the pulp of the fruit, after removal of the seeds, is cooked until thoroughly disintegrated. When this stage is reached the peel is added to the pulp and thoroughly stirred in, together with one-half pound of sugar for every pound of fruit used. The whole batch is now cooked rapidly, with constant stirring, until the desired consistency is reached. This is usually at about a boiling point of 225-227 degrees Fahrenheit, quite beyond the jelling point. The best way of ascertaining the proper consistency is to remove a tablespoonful

of the material, while cooking, and cool it rapidly in a small dish placed in ice water.

#### Another Method

If a mild product is desired it is best to split the segments of the grapefruit after peeling and removing the pulp, discarding the partition walls and seeds.

When the product has finished cooking it is passed through a food grinder, using the smallest possible cutter. If fairly stiff it can be passed through the peanut butter grinder very readily. This operation should be carried out while the material is hot and it can be packed in freshly washed, hot fruit jars. If desired, the exposed surface at the top can be covered with melted paraffin.

### OVERLOADING TRACTORS

Tractor users are constantly warned by manufacturers and dealers of the importance of not overloading their machines. Yet a prominent engineer has suggested that it might be more in keeping to build the tractors strong enough to stand overloading. Not only does the pressure of his work demand it, but his wagon, his automobile, his truck, his gas engine, even his electric motor, all are built to withstand from 33 1-3 to 100 per cent overload. It is manifestly impossible never to force any farm machine beyond its rated capacity. Working conditions are seldom ideal. Other considerations are placed before saving the machinery. If every farmer had to stop and consider whether he might strain his machinery before tackling some urgent and necessary job his efficiency would be greatly lowered. By all means let us demand under-rating instead of over-rating. It would ultimately benefit the tractor manufacturer even more than the buyer.

### CITRUS THIRIPS; HOW AND WHEN TO COMBAT THEM

A synopsis of the finding of J. R. Horton of the U. S. Department of Agriculture on citrus thrips appears in a late issue of the Experiment Station Record. It is from Bulletin 616 and is a summary of the present status of knowledge of (*Euthriips*) *Scirtothriips citri*, based on the author's investigations in California, and a review of the literature, including earlier reports of the bureau of entomology, previously noted. The history and distribution of the citrus thrips, nature and extent of injury, dissemination, food plants, life his-

tory and habits, seasonal history, natural checks, natural enemies, and control experiments are considered and a bibliography of 16 titles appended.

Plain lime-sulphur solution, 1:56 of 36° B. density or 1:56 of the 33°, is recommended as the most reliable of the four best mixtures resulting from the tests, a soda-sulphur solution being the next most effective mixture. The first application should be made when four-fifths or more of the petals have fallen, at which time the orange is most susceptible to deep injury by the thrips. The second application should be timed to prevent injury both from larvae issuing from the young fruits and from adults emerging from the pupal stage existing at the time of the first application, i. e., from 10 to 14 days after the first spraying. The time of application of the third spraying depends upon the effectiveness of the first two, it usually taking from three to four weeks for the thrips to again become dangerously numerous. "All three applications should be completed by the time the fruit is half grown, after which it rapidly loses its attractiveness for the insects, which then find it necessary to spread out over the comparatively scant tender orange growth and miscellaneous food plants.

"During the latter part of August and early in September there is usually another abundant growth of orange shoots, and upon this the thrips congregate in large numbers. A fourth application during this period is advisable in some seasons to prevent severe injury to this growth, which is often most abundant of the season."

On nursery stock the first application should be made when the thrips become numerous on the spring growth and before their injury becomes very evident, usually between April 15 and May 15. From two to four further applications should follow the first spraying, depending upon the number of growths and the degree of infestation.

R. M. Teague of the R. M. Teague Nurseries at San Dimas has contracted with the La Habra Heights Co. to purchase 90 acres of land in the tract being developed by this company. The agreement was made with E. G. Hart as president of the La Habra Heights Co. Other large holdings are being sold in this property.

## PROPER MARKETING OF CITRUS FRUITS

(Continued from page 6)

at a particular time.

These things are affected not merely by the volume and character of the particular crop to be handled, but by the quantities, character, condition and availability of competitive fruits, by weather conditions, both at shipping point and in the markets, industrial conditions in the large centers of population, transportation difficulties of various kinds, and a number of other factors.

The cariot distribution of citrus fruits, therefore, has in fact become a highly developed science, and its successful accomplishment calls for salesmanship of the highest order, supported by a distributing organization in the various markets which is thoroughly efficient in all its branches.

It presupposes an intimate and accurate knowledge of the fruit itself and of conditions obtaining at the shipping end; of the peculiarities and demands of the buying trade in the different markets, and how these markets react to various influences; of the available supplies of other fruits, and how they may affect the market; and of all the other factors above mentioned. It requires ability to properly weigh these various factors and accurately estimate the nature and extent of their influence on the general situation, as affecting the demand for the particular commodity under consideration, not only as respects the price at which immediate shipments may be disposed of, but also as affecting the best policy to be pursued with respect to the movement of the entire crop throughout the season, and the average price that it may be possible to obtain for it as a whole.

Every competent salesman realizes the importance of preserving and stimulating as far as possible the demand for his product. Too frequently the mistake is made of shipping immature and unpalatable Florida fruits, or weak and inferior fruit, to exacting markets, thereby prejudicing the buying trade and the consumer and forfeiting a demand which it is very hard to regain.

Another error often made is in a failure to properly judge the general market situation and keep f.o.b. prices on a basis where the fruit will sell. This necessarily results in throwing into the larger markets many cars of undesirable sizes and grades, with serious consequences,

when an intelligent grasp of the true market conditions and proper sales methods would have made possible a proper distribution of such cars on an f.o.b. sale basis to markets better suited to them.

On the other hand, a failure to anticipate the demands of the markets for high grade fruit of desirable sizes, and an undue proportion of f.o.b. sales on a rising general market would have a tendency to keep prices low, when there might be every justification for higher market conditions.

A thorough knowledge of all the facts that in any way affect the movement or value of the fruit he handles is at all times essential to a salesman of citrus fruits, and he must possess the experience and judgment necessary to enable him to properly meet rapidly changing conditions if he would hope to handle such products with success.

## COMBAT INFLUENZA WITH GRAPEFRUIT

(Continued from page 16)

tive relieving powers in cases originating from what is known as a cold." A third observer declared that "oranges are being generally prescribed for sufferers by physicians," while a fourth averred that "grapefruit is just as beneficial for influenza as oranges."

That the health elements of Florida grapefruit and oranges make them useful in the influenza epidemic is doubly significant in view of the degree to which the food values and pre-war prices of these fruits are causing them to be used in the North in the campaign to check increases in living costs.

## GRAPEFRUIT PLENTIFUL IN PORTO RICO

Porto Rico, Jan. 28.—The holdings of citrus fruit, particularly grapefruit, are much greater than usual at this time of the year. Market conditions in New York for the past month or more have not been particularly satisfactory, and for this reason growers have been holding off on shipments, waiting for prices and conditions to improve. Some improvement is noted this week, the market on grapefruit being in the best condition it has been since last October. There is plenty of grapefruit left on the island, and with shipping facilities on a normal basis, it is believed the crop will move rapidly. It is understood the major portion of the grapefruit is still to be shipped.

## POLK COUNTY TO HAVE NEW FRUIT JUICE PLANT

Many of Winter Haven's prominent business men are interested in the juice plant at Haines City, which is to be started in the near future. Arrangements have been finally agreed upon for the operation of this plant, and the details of general management are being worked out now. New machinery has been ordered and it is fully expected that the plant will be in full swing before the close of the present season. Cull fruit has in the past meant a dead loss to the orange grower, as there has been no practical way to handle it. California solved the problem in the manner Polk county is now adopting and therein lies the solution of the grower's chances to make his yearly crop yield him a maximum income.

Polk county, in leading the state's citrus industry along this new line, has made a step that is eventually bound to equalize Florida's progress in citrus fruit development with that of California.

In connection with the marmalade factories recently established at Arcadia, Orlando and Miami, this new juice plant will go far toward affording a market for culls and waste fruits which formerly constituted a complete loss to the grower.

It is stated that the new plant has assurance of an available market for all of its product.

Frederick Maskew, in charge of the plant quarantine division of the state department of agriculture, is advising extreme care on the part of quarantine guardians in passing citrus fruits for export to Australia. He points out that the good faith of California is involved, for Australia has recently opened her doors to California citrus fruits, having removed her quarantine against oranges from this state. A special form of certificate is required to be used by the quarantine guardian at the point of origin of the shipment.

Major E. W. Jones, retired citrus fruit grower, who has just returned from an European trip, states that the Italian laborer is returning to his native land. He attributes this action to the fact that they do not like prohibition, as they are accustomed to the use of wines from childhood. Major Jones expresses the opinion that no influx of labor from Italy can be expected for some time as most of the emigrants are going to South America.

**A GENTLEMAN'S BUSINESS**

(Continued from page 5.)

ness, in utility through food and health value, but the long-lived trees which produce them give to the business of citrus growing a stability and permanance which warrants any man in putting the best efforts of his life into their proper care and culture. If an apple tree reaches the age of fifty years it is a most noteworthy event, calling for proper celebration. Yet we have record of citrus trees seven hundred years old and still producing, with the promise of a ripe old age before them.

The average commercial citrus grower is something of a duffer, just as the average golfer is the same. It doesn't imply a lack of interest, however, as much as a lack of ability and precision. One of the most interesting golf-talkers I ever met could have made Henry Vardon look shabby in a conversational game of golf, yet his score card for some reason or other failed to qualify him even in novice flights. It is possible however, he got as great compensation from his golf talk as the redoubtable Harry ever got from running down a twelve-foot putt for a three. Inability to perform in first class fashion often only serves as added spur to new efforts. I know a man with several hundred acres in bearing citrus trees who has realized a fortune from his citrus activities. At horticultural gatherings growers hang upon his least word; but he says little. He has been so busy doing things he forgot to acquire the art of telling about them. Then there is a neighbor of his who has almost four acres planted in citrus trees. He can take you through his property and give a comprehensive biography of each and every tree, each being duly numbered and properly "trap-nested." Some day he will get as big, and good, a crop off his trees as the big grower gets from four acres just across the road. And that will be a big day. Meantime, if you want reliable and scientific information, what to do and what not to do, when and when not to do it, see the man with just four acres. He's a fan.

A few years ago I attended the big annual tractor demonstration at Fremont, Nebraska, which brings together big farmers from over a wide area. During the various evening sessions around the hotels I mostly heard discussed the relative merits of Joe Stecher and Frank Gotch, and the relative value of the "toe-hold" and

the "scissors." Get together any similar number of citrus growers and note how closely the discussions cling to the line of citrus endeavors. That seems to be the big difference discernible between citrus men and horticulturists or agriculturists in other lines. No matter how much gray matter a man may bring to the job of citrus growing there is ample play for it all the time.

Perhaps the substantial difference in remuneration for efforts expended, also, may tend to make citrus growers inclined to stick to their work. Comparisons are always dubious, but just for diversion compare the average income of the citrus growers with the average income Uncle Sam accredits to agriculturists and horticulturists in other lines. It will go a long way to account for the plenitude of multi-cylindered motor cars to be seen at any gathering of citrus men. Also, it partly accounts for the many conveniences to be found in the homes of the same growers.

Couple this with the progressiveness of citrus growers and the opportunity for the use of any man's best mental efforts and you have the answer. The climate in which citrus trees thrive is the best climate for the enjoyment of human activities to be found upon the globe. Citrus growers not only are able to buy the best products of the motor car makers, but they can use them out in the open every day of the year with the fullest enjoyment of motoring delights, and in California, Florida and Porto Rico citrus sections over the finest highways to be found anywhere. Generally speaking, they live in homes of the sort the average grain farmer only thinks of building after he quits for life in town. They are able to pursue their occupation outdoors every day in the year, getting the fullest benefit of God's own fresh air and sunshine and thus having a tremendous advantage over the city worker. Yet if they feel the call of the bright lights and "the pictures" they are easily reached by a short automobile trip to some nearby progressive town over good roads at any time, winter or summer.

Citrus growing is truly a gentleman's game. Even if now and then the odor of "blood and bone," which has little in common with attar of roses, or the far-flung fervency of "fish oil spray," which doesn't belong to the same family as ylang-ylang, wafts across the veranda some delightfully mild evening, it is but the necessary occasional reminder that commercial citrus growing after

all is a most substantial business, as well as a most engaging game.

**MUCH INTEREST IN****SOUTH FLORIDA FAIR**

Beyond doubt the South Florida Fair to be held in Tampa, Feb. 16 to 21, inclusive, will be the most successful in every phase yet held in southern Florida. Fully a month before the opening date practically every inch of space in the various exhibit buildings have been taken making the erection of other structures necessary in order to meet the demands coming from exhibitors from all sections. Several counties of northwest Florida, appreciating the advertising advantages of holding the fair in mid-winter, have asked for and been given space.

In honor of the fair the railroad administration has granted a rate of one and one-half fares for the round trip to Tampa from all points east of the Chattahoochee river, tickets going on sale the day before the opening and being limited to the day following the close. Tampans have already begun making systematic arrangements for housing and feeding the large crowds expected to attend. Citizens generally have entered this movement with vigor.

Fair officials have been able to secure a better array of free amusement acts than have been seen in the south since the European war began, and added to these will be forty attractions of the Johnny Jones Exposition, which, with headquarters at Orlando, is a Florida institution. Mr. Jones is conceded at present to have the finest show of this kind on the road. He recently bought two trains of pullmans and freight cars with which to transport his show around the country.

"The fair, in every department, will be a record breaker," is the way President W. G. Broein sizes up the situation.

**ANAHEIM ORANGE & LEMON ASSN. HAS AN ACTIVE, GOOD YEAR**

In the period of one year the Anaheim Orange and Lemon association started work on its fine new packing house, completed it and shipped 701 car loads of fruit to the markets. This fact was brought out by Manager G. W. Sandilands at the annual meeting of the association. His reports on shipments were based on the period from Nov. 12, 1918, to Nov. 12, 1919. Manager Sandilands predicted that the receipts from this fruit would aggregate close to \$1,250,000.

### FARMING WITH TRACTORS THE CHEAPER WAY.

(Continued from page 19)

gives a crop of but slightly over half as much, or sixteen and two-thirds bushels.

Not only does the tractor enable the farmer to use gang plows and increase his plowing capacity, but it also eliminates the limitation of the size and combination of other farm machinery that has been imposed by the limited strength and endurance of the draft animal. The tractor farmer can use large ten-foot disc harrows, three-row listers, and the largest size implements of all kinds—and combinations of implements—plowing, fitting, and seeding a crop at one passage of the outfit. Again at harvest, a corresponding increase of the labor output of the individual is possible. Ten-foot mowers and binders will become the prevailing types, and there will follow an introduction of combined harvest-threshers and stacker-harvesters into districts where they are as yet unknown.

Mechanical power means a revolution in farm methods; the power farmer of the future will produce foodstuffs at a fraction of their present cost, and it is even possible that the soil of the country will be tilled by a working population relatively, if not actually, smaller than that of today.

The tractor does not merely mean an increase in comfort and material resources; it means the maintenance and further evolution of democracy itself. It is an enemy of drudgery.

Take it the year round and the world over, men work for horses more than horses work for men. Chores the farmer has always with him, and of them horse care forms no small part. With the tractor it is different; the driver can shut off the power and that is all there is to it. Repairs or adjustments can wait his convenience. Nor is the labor of driving the tractor hard or exhausting. The horse has no small share in driving the boys from the farm. Perhaps the voice of the tractor will call them back.

The fear that, owing to its high initial cost the tractor will crowd out the small farmer and that the farming of the future will be carried on by agricultural "trusts" is hardly justified. It is true that mechanical power allows the successful operation of agricultural enterprises of a size as yet unknown, but even these will fall far short of monopoly. Anyhow, the tendency of tractor manu-

facture is toward production of low-priced machines, absolute mechanical perfection being a secondary consideration. The grain binder as compared with the cradle was a much more expensive machine than is the tractor compared with the horse. The age of power farming calls for a great increase in the working capital of the farms of the future, and their financing offers the opportunity of greatest public service open to the investing public.

It is estimated that there were about 121,700 tractors in use in 1918 and there were 132,697 manufactured during that year, of which 96,470 were sold in the United States. A 1919 production of 314,936 tractors in the United States is estimated.

### MID-WINTER SUB-TROPICAL FAIR WILL BE BIG EVENT

Our main subject for today is the coming Sub-Tropical Mid-Winter Fair.

It is a good subject and a timely one, for there is no one thing in this immediate section that means so much as this fair and now that most of the county fairs and the Jacksonville State Fair is over, the thing uppermost in the minds of those who believe in these expositions is the fair that draws these exhibits from the five counties of Orange, Seminole, Volusia, Lake and Osceola, and attracts attention all over the state and secures support from the four corners of the earth, for, whatever may be said of other fairs, it is an incontrovertible fact that this fair, held in Orlando, Florida, from February 10 to 13, 1920, probably brings more visitors in the state to one place than any other. It is held at the right time to influence this class of visitors and all who are in any way interested in Florida enterprise and products are always sure to be on the ground.

For ten successive years, without regard to drawbacks of weather or war this fair has held uniformly successful exhibitions and while it has paid no dividends to the stockholders, it has never gone by default and the officers and stockholders derive pleasurable compensation in the good they feel sure they are doing the country and the people.

The coming fair will be in no way inferior to those formerly held and in some respects it is expected it will surpass them, for the interest in exhibitions of this character is greatly increasing among intelligent and informed people.

The management joins the press in

extending a most cordial invitation to everybody everywhere to get ready and spend this February celebration in Orlando.—Reporter Star.

### ANOTHER GROVE

#### CHANGES HANDS

H. S. Rogers and H. E. Cornell of Winter Haven purchased through the Rupert Smith real estate agency, the fine budded grove of Dr. R. L. Cline, two and one-half miles west of Arcadia. This grove consists of twenty-six acres in grove and is about three-fourths of valencias, and pineapple oranges, all bearing. It is one of the finest groves in this section, and always has been a good income producer. It is understood that something in the neighborhood of \$40,000 was paid, including this year's crop.

Mr. Rogers recently purchased the Carlton and McSwain grove, located near this grove, and Mr. Cornell is the resident manager of the Glen St. Mary nursery, located at Winter Haven, Fla., and has entire charge of the producing end of the Glen St. Marys nursery. Mr. Cornell and Mr. Rogers have large grove interests in the Winter Haven section. Rupert Smith will look after their interests at Arcadia, although Mr. Rogers will be down frequently.

### NO SHIPS AVAILABLE

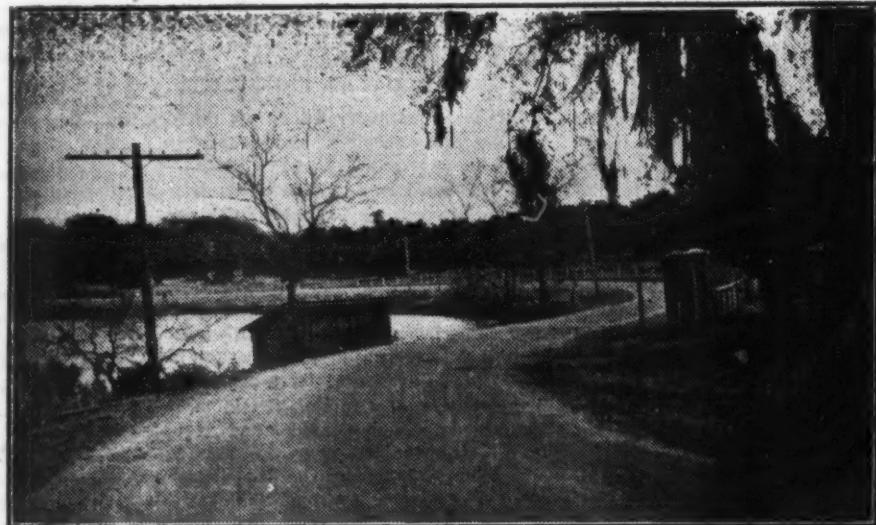
Shipments of California fruits to eastern points via the Panama Canal will probably not be possible until after the government's policy toward the steamship lines have been determined, it was said at a recent meeting of the Exchange directors.

Coast to coast boats which were withdrawn for war duty have not yet been replaced and the demand for bottoms for ordinary commercial use is so great that all available tonnage can easily fill their holds for every trip without providing refrigerator equipment for the handling of perishables.

### W. A. REA BUYS GROVE

W. A. Rea has purchased a grove in Lucerne Park, which makes him the owner of considerable property in Winter Haven as he also owns the Hutchinson home near Lake Howard. The grove, which is half Valencias and half grapefruit is located right near the road.

J. Walker Pope and Son also report the sale of the C. D. Twiss ten acres adjoining Mountain Lake on the road to Lake Wales.



#### IN THE HEART OF THE CITRUS BELT

A stretch of good roads in the Florida Highlands with a model orange grove in the background. This is but one of many similar scenes which illustrate the progressive character of the citizenship of the South Florida citrus belt. Note the asphalt highway skirting the beautiful lake and the magnificent orange grove on its borders.

### MAKING VINEGAR FROM ORANGE CULLS AND DROPS

Oranges usually contain sufficient sugar to make a satisfactory vinegar, according to Miss Sarah Partridge, state home demonstration agent. Drops and culls can be utilized in this way. When making vinegar from oranges squeeze out the juice and pulp and add a fresh yeast cake to every five gallons of the juice and pulp. Put this into a clean barrel, keg or crock. If vessels are used which have previously been used as containers for vinegar, they should be cleansed thoroughly, as the presence of vinegar in fresh juice will prevent the juice from making vinegar.

Work the yeast thoroughly in about a half cup of juice and add this to the juice and pulp, stirring well. Cover the vessel with a cloth, and place, if possible, in a warm room, as this will hasten the fermentation. The best temperature for vinegar making is from 80 to 90 degrees F. Let it stand until all bubbling or "working" stops. After the bubbling stops, strain the juice and it will be found advantageous to add some good strong vinegar to three or four gallons of juice. Inoculation of the juice with acetic acid bacteria, by the addition of vinegar, hastens the completion of the product and prevents chance inoculation with a possible undesirable bacteria from the air. After adding vinegar, cover the vessel with a cloth and keep in a dark place, and if possible in a temperature that ranges from 70 to 90 degrees. Do not disturb the film that forms, for this is the acetic acid bacteria which turns the juice into vinegar. Do not exclude the air, the bacteria must have air for growth. When the vinegar is as acid as is desired, or when it ceases to increase in acid, syphon off and put in keg, jug or bottle, fill full and stopper tight. If this is not done, the acid will gradually disappear, and the vinegar will "turn to water." In the proper temperature, the process of vinegar making has been completed in three weeks. At this season of the year, when the temperature is lower, the time necessary for the completion of the process will be longer.

Commercial vinegar contains 4 1-2 per cent acetic acid.

There is on the market a simple inexpensive apparatus for testing the proportion of acetic acid in vinegar. A number of our home demonstration agents are supplied with this equipment and will be glad from time to time to give demonstrations

in the testing of vinegars. They will also be glad to supply any further information to housewives who are interested in the making of vinegar.

### GREAT ACTIVITY AT BARTOW PACKING HOUSES

The orange and packing industry in Polk county is moving along at a rapid rate, according to the Polk County Record, published at Bartow. Many cars have been shipped from the packing houses in and near Bartow and the prospect for continued heavy shipments is good.

The quality of the fruit is above the average, it is reported and the quantity is greater than ever before. The market is steady though not high, yet not fluctuating. The oranges are mostly in demand, the sugar shortage making the grapefruit market uncertain. However, tangerines are higher than was ever known, according to reports received from several markets.

The local situation is rendered precarious because of the scarcity of pickers and the seeming impossibility of securing any who will stay with the work. Though the price per box is three times what it once was, yet it seems the pickers become discouraged if they do not earn a large amount while learning and quit the work. A price of fifteen cents per box is being paid which is extremely remunerative when one develops celerity in picking and becomes an adept at it. We were told of one colored man last week who made \$40 without putting forth special effort. Experienced pickers can average fifty to sixty boxes a day. At this price, it certainly seems the fruit crop would not be allowed to ruin owing to pickers being scarce.

### The Car Situation

Walker D. Hines, director general of railroads, says:

"Every effort is being made to speed up the construction of the 100,000 freight cars ordered by the Railroad Administration last year and to place in service such of these cars as are still in storage. The Railroad Administration has decided to place all these cars in service irrespective of whether or not allocations are accepted by the railroad corporations.

"On September 6, 1919, 54,068 of these cars were completed and in service and 17,469 were in storage awaiting lettering and numbering. The total number of cars in storage was reduced from 34,245 on August 1, 1919, to 17,469 on September 6,

1919. During the week ending September 6, cars in storage were stencilled and placed in service at the rate of 616 per day. New cars at the rate of 218 per day were completed and placed in service, thus making a total of 834 cars per day placed in service.

"All available railroad shops are being used for the purpose of supplementing the work of the car shops in stencilling cars in storage. The total number of these cars placed in service daily will increase during the next few weeks."

The Imperial Valley Grapefruit Growers Association has been organized at El Centro for the purpose of handling the grapefruit produced in that section. The following have been chosen as directors: D. G. Whiting, Dr. W. W. Apple, C. Conant, J. D. Henderson and J. W. Reed.



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